

where the lens system 100 is shown first in its normal condition (A). The anterior and posterior viewing elements 106, 118 are manipulated to place the lens system 100 in a low-profile condition (B), in which the viewing elements 106, 118 are out of axial alignment and are preferably situated so that no portion of the anterior viewing element 106 overlaps any portion of the posterior viewing element 118, as viewed along the optical axis. In the low-profile position (B), the thickness of the lens system 100 is minimized because the viewing elements 106, 118 are not "stacked" on top of each other, but instead have a side-by-side configuration. From the low-profile condition (B) the viewing elements 106, 118 and/or other portions of the lens system 100 can be folded or rolled generally about the transverse axis, or an axis parallel thereto. Alternatively, the lens system could be folded or rolled about the lateral axis or an axis parallel thereto. Upon folding/rolling, the lens system 100 is placed in a standard insertion tool as discussed above and is inserted into the eye.

[0172] When the lens system 100 is in the low-profile condition (B), the system may be temporarily held in that condition by the use of dissolvable sutures, or a simple clip which is detachable or manufactured from a dissolvable material. The sutures or clip hold the lens system in the low-profile condition during insertion and for a desired time after insertion. By temporarily holding the lens system in the low-profile condition after insertion, the sutures or clip provide time for fibrin formation on the edges of the lens system which, after the lens system departs from the low-profile condition, may advantageously bind the lens system to the inner surface of the capsular bag.

[0173] The physician next performs any adjustment steps which are facilitated by the particular lens system being implanted. Where the lens system is configured to receive the optic(s) in "open" frame members, the physician first observes/measures/determines the post-implantation shape taken on by the capsular bag and lens system in the accommodated and/or unaccommodated states and select(s) the optics which will provide the proper lens-system performance in light of the observed shape characteristics and/or available information on the patient's optical disorder. The physician then installs the optic(s) in the respective frame member(s); the installation takes place either in the capsular bag itself or upon temporary removal of the needed portion(s) of the lens system from the bag. If any portion is removed, a final installation and assembly is then performed with the optic(s) in place in the frame member(s).

[0174] Where the optic(s) is/are formed from an appropriate photosensitive silicone as discussed above, the physician illuminates the optic(s) (either anterior or posterior or both) with an energy source such as a laser until they attain the needed physical dimensions or refractive index. The physician may perform an intervening step of observing/measuring/determining the post-implantation shape taken on by the capsular bag and lens system in the accommodated and/or unaccommodated states, before determining any needed changes in the physical dimensions or refractive index of the optic(s) in question.

[0175] FIG. 40 depicts a technique which may be employed during lens implantation to create a fluid flow path between the interior of the capsular bag 58 and the region of the eye anterior of the capsular bag 58. The physician forms

a number of fluid-flow openings 68 in the anterior aspect of the capsular bag 58, at any desired location around the anterior opening 66. The fluid-flow openings 68 ensure that the desired flow path exists, even if a seal is created between the anterior opening 66 and a viewing element of the lens system.

[0176] Where an accommodating lens system is implanted, the openings 68 create a fluid flow path from the region between the viewing elements of the implanted lens system, and the region of the eye anterior of the capsular bag 58. However, the technique is equally useful for use with conventional (non-accommodating) intraocular lenses.

[0177] Although this invention has been disclosed in the context of certain preferred embodiments and examples, it will be understood by those skilled in the art that the present invention extends beyond the specifically disclosed embodiments to other alternative embodiments and/or uses of the invention and obvious modifications and equivalents thereof. Thus, it is intended that the scope of the present invention herein disclosed should not be limited by the particular disclosed embodiments described above, but should be determined only by a fair reading of the claims that follow.

What is claimed is:

1. An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising:

an anterior viewing element comprised of an optic having refractive power of less than 55 diopters;

a posterior viewing element comprised of an optic having refractive power, said optics providing a combined power of 15-25 diopters, said optics mounted to move relative to each other along the optical axis in response to a contractile force by the ciliary muscle of the eye upon the capsular bag of the eye, said relative movement corresponding to change in the combined power of the optics of at least one diopter.

2. The lens of claim 1, wherein said optics are mounted to move relative to each other along the optical axis in response to a contractile force by the ciliary muscle of the eye upon the capsular bag of the eye of up to 2.0 grams.

3. The lens of claim 1, wherein said anterior viewing element comprises an optic having a refractive power of less than 40 diopters.

4. The lens of claim 1, wherein said anterior viewing element comprises an optic having a refractive power of less than 35 diopters.

5. The lens of claim 1, wherein said anterior viewing element comprises an optic having a refractive power of less than 30 diopters.

6. The lens of claim 1, wherein said posterior viewing element comprises an optic having a refractive power between -25 and 0 diopters.

7. The lens of claim 1, wherein said posterior viewing element comprises an optic having a refractive power between -25 and -15 diopters.

8. The lens of claim 1, wherein said posterior viewing element comprises an optic having a refractive power between -15 and 0 diopters.

9. The lens of claim 1, wherein said posterior viewing element comprises an optic having a refractive power between -13 and -2 diopters.

10. The lens of claim 1, wherein said posterior viewing element comprises an optic having a refractive power between -10 and -5 diopters.

11. The lens of claim 1, wherein said relative movement of said optics includes an accommodated position and an unaccommodated position, said optics being about 0.5-4 millimeters closer together when in the unaccommodated position.

12. The lens of claim 1, wherein said relative movement of said optics includes an accommodated position and an unaccommodated position, said optics being about 1-3 millimeters closer together when in the unaccommodated position.

13. The lens of claim 1, wherein said relative movement of said optics includes an accommodated position and an unaccommodated position, said optics being about 1-2 millimeters closer together when in the unaccommodated position.

14. The lens of claim 1, wherein said relative movement of said optics includes an accommodated position and an unaccommodated position, said optics being about 1.5 millimeters closer together when in the unaccommodated position.

15. The lens of claim 1, wherein:

said lens has a thickness between an anterior face of the anterior viewing element and a posterior face of the posterior viewing element;

said relative movement of said optics includes an accommodated position and an unaccommodated position; and

said thickness decreases from about 3.0-4.0 millimeters in the accommodated position to about 1.5-2.5 millimeters in the unaccommodated position.

16. The lens of claim 13, wherein:

said lens has a thickness between an anterior face of the anterior viewing element and a posterior face of the posterior viewing element;

said relative movement of said optics includes an accommodated position and an unaccommodated position; and

said thickness decreases from about 3.0-4.0 millimeters in the accommodated position to about 1.5-2.5 millimeters in the unaccommodated position.

17. The lens of claim 14, wherein:

said lens has a thickness between an anterior face of the anterior viewing element and a posterior face of the posterior viewing element;

said relative movement of said optics includes an accommodated position and an unaccommodated position; and

said thickness decreases from about 3.0-4.0 millimeters in the accommodated position to about 1.5-2.5 millimeters in the unaccommodated position.

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